

Special Issue

Application of Ionic Liquids to Energy

Message from the Guest Editor

Applications of ionic liquids (ILs) can be broadly divided into reaction solvents and ion conductive materials. As ILs are expensive and difficult to recover, the field of use as an ion conductor is getting more attention than that as a reaction solvent. Electrochemical applications of ILs are mainly focused on energy storage devices such as supercapacitors and batteries. Additionally, ILs are also used for photovoltaic hydrogen generation, DSSC, fuel cells, actuators, and sensors. The role of ILs in energy storage is mostly as electrolytes, especially in the field of supercapacitor fuel due to their high ionic conductivity and wide stability window. In addition, since ILs have negligible vapor pressure and are flame-retardant, they can be a key material that solves the instability of the lithium ion secondary battery. In addition, they are often used in the process of synthesizing the electrode material of the energy storage device. In this session, the various applications of ILs will be presented for energy storage and conversion devices, and this section will provide researchers with new ideas and new challenges for ILs' applications.

Guest Editor

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